

VZCZCXRO6078
RR RUEHCN RUEHGH RUEHHM RUEHLN RUEHMA RUEHPB RUEHPD RUEHVC
DE RUEHIN #1168/01 1442300
ZNR UUUUU ZZH
R 242300Z MAY 07
FM AIT TAIPEI
TO RUEHC/SECSTATE WASHDC 5376
INFO RUEHOO/CHINA POSTS COLLECTIVE
RUEHZN/ENVIRONMENT SCIENCE AND TECHNOLOGY COLLECTIVE
RUEHBJ/AMEMBASSY BEIJING 6825
RUEHUL/AMEMBASSY SEOUL 8665
RUEHKO/AMEMBASSY TOKYO 8801
RHMFIUU/HQ EPA WASHINGTON DC
RHMFIUU/DEPT OF ENERGY WASHINGTON DC

UNCLAS SECTION 01 OF 02 TAIPEI 001168

SIPDIS

SENSITIVE
SIPDIS

USDOE FOR INTERNATIONAL -PUMPHREY

E.O. 12958: N/A

TAGS: [SENV](#) [KNNP](#) [ENRG](#) [TW](#)

SUBJECT: TAIWAN USING GAS TURBINES AND WINDPOWER TO MEET
ENERGY DEMAND

REF: 06 TAIPEI 03518

¶1. SUMMARY. Taipower Co. operates the Tatan complex which will consist of six LNG-fueled units generating power from gas/steam turbines. Two of the units are currently operational with the remainder scheduled for completion in ¶2008. When complete the complex is expected to produce 10 percent of Taiwan's power needs. The project has lately been faced with environmental issues related to algae reefs offshore where some of the gas pipelines are being installed. Wind-power units on site are subject to seasonal winds. END SUMMARY

THE MOST EFFICIENT GAS-FIRED POWER PLANT

¶2. AIT ESTH officer visited Tatan power plant complex on May 9, located on Taiwan's Northeast coast. He also observed some of the wind-power installations. Tatan was conceived as a backup to the fourth Nuclear Power Plant (NPP) which has been scheduled for completion in 2009. (note: AIT industry sources suggest that date is very optimistic and a more realistic date is 2010 or possibly 2011. End note). The Tatan complex will be fueled with LNG imported from Qatar through an arrangement with Exxon/Mobil (reftel). A total of six combined-cycle gas units are planned with the final unit to become operational in late 2008. Total electricity generated from the six units will be 4,384 MW. Currently, two mixed-fuel units are operating using both distilled oil and LNG. When the remaining four units are completed, they will have an efficiency of 51.65 percent, making it the most efficient gas-turbines in the whole island. The LNG will arrive by ship in Taichung harbor and then travel by pipeline, now under construction by China Petroleum Corporation (CPC) to Tatan.

AN INCOMPLETE EIS THREATENS ALGAE REEFS

¶3. (SBU) Environmentalists claim that the pipeline from Taichung to Taoyuan (Tatan) will threaten offshore algae reefs that have taken thousands of years to form. The gas pipeline as designed will be built over algae reefs that occur in abundance off the Taoyuan County coast where the powerplant is sited. The reefs provide structural support for the pipelines that a soft sandy bottom cannot. In 2005, Taiwan Environmental Protection Agency (TEPA) approved an Environmental Impact Statement (EIS) for the pipeline construction. However evidence of potential damage to algae

reefs surfaced after the EIS approval. TEPA acknowledged to AIT that although they have asked Taipower and CPC to come up with protection measures by the end of May,1 essentially they cannot demand drastic measures because they approved the EIS earlier.

WIND POWER: HIGH COST - LOW RETURNS

14. ESTH officer also visited a cluster of three wind-turbines next to Tatan (23 units are currently operating along the coast in Tatan with a capacity of 34.5 MW). These units, supplied by GE at a cost of \$3 million/unit were idle because the turbines only kick-in when the wind speed reaches 4 meters/sec and stop when it reaches 25 meters/sec. Taipower officials stated that Winter was the best season for operating the wind turbines when winds average 5-6 meters/sec. This limits their peak operational time to six months. Taipower officials complained of the difficulty maintaining the 164-foot tall windmills (maintenance is through a single stairway to the top) while the power generated was small compared with conventional coal/gas fired turbines. However, Taiwan's overall energy plan calls for installation of enough units to generate 10 percent of Taiwan's energy needs by 2010. If this goal is realized, windpower would account for 80 percent of renewable energy. Out of 546 windmills (with a total capacity of 1,980 MW) planned for construction between 2010 to 2020, 176 will be installed off the Penghu islands (located in the Taiwan Straits) and the electricity relayed to Taiwan via a 40 km undersea cable. The other 376 units will be installed along the coast of Changhua and Yunlin counties in central Taiwan.

TAIPEI 00001168 002 OF 002

YOUNG